

**AMENDMENTS TO THE CLAIMS:**

1. **(Currently Amended)** A method for plating a metal in fine channels formed in a surface of a substrate or in opening portions in a resist formed on a surface of a substrate, comprising:

providing a substrate having fine channels formed in a surface of said substrate or having opening portions in a resist formed on the surface of said substrate;

using a deaerating device to deaerate dissolved gas in a preprocessing solution so as to provide a deaerated preprocessing solution;

supplying said deaerated preprocessing solution from said deaerating device to a preprocessing bath;

contacting said surface of said substrate, or said resist formed on said surface of said substrate, with said deaerated preprocessing solution in said preprocessing bath so as to absorb air bubbles in said fine channels or in said opening portions into said deaerated preprocessing solution; and then

contacting said surface of said substrate, or said resist formed on said surface of said substrate, with a plating solution for plating metal into said fine channels or into said opening portions.

2. **(New)** The method according to claim 1, wherein said preprocessing solution comprises water.

3. **(New)** The method according to claim 1, wherein said substrate comprises a semiconductor substrate.

4. **(New)** The method according to claim 1, wherein contacting said surface of said substrate, or said resist formed on said surface of said substrate, with a plating solution comprises

contacting said surface of said substrate, or said resist formed on said surface of said substrate, with said plating solution while rotating said substrate.

5. (New) The method according to claim 1, wherein using a deaerating device to deaerate dissolved gas in a preprocessing solution comprises using a vacuum pump and a deaerating membrane module to remove dissolved gas from said preprocessing solution.

6. (New) The method according to claim 1, further comprising monitoring concentration of dissolved gas in said preprocessing solution via a sensor that is capable of detecting the concentration of the dissolved gas.

7. (New) The method according to claim 1, further comprising maintaining concentration of dissolved gas in said preprocessing solution within a range from 1 ppb to 4 ppm.

8. (New) The method according to claim 1, wherein contacting said surface of said substrate, or said resist formed on said surface of said substrate, with a plating solution results in said preprocessing solution in said fine channels, or in said opening portions, being replaced by said plating solution such that a metal is plated into said fine channels or into said opening portions.

9. (New) The method according to claim 1, wherein using a deaerating device to deaerate dissolved gas in a preprocessing solution comprises using a vacuum pump to create a vacuum so as to remove dissolved gas from said preprocessing solution.

10. (New) The method according to claim 1, wherein contacting said surface of said substrate, or said resist formed on said surface of said substrate, with said deaerated

preprocessing solution comprises immersing said substrate into said deaerated preprocessing solution or showering said substrate with said deaerated preprocessing solution.

11. **(New)** The method according to claim 1, wherein contacting said surface of said substrate, or said resist formed on said surface of said substrate, with said deaerated preprocessing solution comprises contacting said surface of said substrate, or said resist formed on said surface of said substrate, with said deaerated preprocessing solution after concentration of dissolved gas in said deaerated preprocessing solution falls beneath a predetermined value.

12. **(New)** The method according to claim 1, further comprising maintaining concentration of dissolved gas in said deaerated preprocessing solution at a predetermined value by using a control unit.

13. **(New)** The method according to claim 1, further comprising before or while contacting said surface of said substrate, or said resist formed on said surface of said substrate, with a plating solution, deaerating dissolved gas in said plating solution so as to provide a deaerated plating solution.

14. **(New)** The method according to claim 13, further comprising monitoring concentration of dissolved gas in said deaerated plating solution.

15. **(New)** The method according to claim 13, wherein contacting said surface of said substrate, or said resist formed on said surface of said substrate, with a plating solution comprises contacting said surface of said substrate, or said resist formed on said surface of said substrate, with said deaerated plating solution after concentration of dissolved gas in said deaerated plating solution falls beneath a predetermined value.

16. **(New)** The method according to claim 13, further comprising maintaining concentration of dissolved gas in said deaerated plating solution at a predetermined value by using a control unit.